

Fiber optic cable with metal



Article Overview

Fiber optic cables with metal components, such as armored or SWA cables, use metal layers to protect delicate optical fibers from mechanical damage, environmental hazards, and rodent attacks while maintaining high-speed data transmission.

Overview of Metal-Integrated Fiber Optic Cables

Fiber optic cables are primarily designed to transmit data using light through glass or plastic fibers, but in certain environments, metal components are added for protection and functionality. These cables are commonly referred to as armored fiber optic cables or Steel Wire Armored (SWA) cables .

Key Metal Components

- **Steel Wire Armor (SWA):** Provides tensile strength, crush resistance, and protection against rodents, making it ideal for direct burial and outdoor installations .
- **Stainless Steel or Aluminum Sheaths:** Used in industrial or chemical environments to resist corrosion and mechanical stress .
- **Copper or Copper-Clad Aluminum (CCA):** Sometimes included for grounding, power delivery, or shielding in hybrid power-fiber cables .
- **Lead or Tin-Coated Copper:** Employed in specialized industrial applications for chemical resistance or electrical insulation .

Construction Layers

A typical armored fiber optic cable includes :...

Article Content

Nov 15, 2025

Fiber Optic vs. Metal Connectors: The Ultimate Comparison Guide for ...

Home - Blog - Fiber Optic vs. Metal Connectors: The Ultimate Comparison Guide for Modern Applications Fiber Optic vs. Metal

Mar 27, 2026

Fibre Optic Cable

View Eland Cables'' range of singlemode and multimode fibre optic cables - loose tube and tight buffered. Technical support, fast

Jan 11, 2026

Armored Fiber Optic Cable

Armored fiber optic cable has emerged as a pivotal solution, offering the high-speed data transmission along with the

Dec 21, 2025

Armored Fiber Cable | Tactical Fiber Optic Cable

OptoSpan SteelFlex Armored Fiber cables feature a revolutionary system comprised of stainless steel

Nov 03, 2025

MASS Cable | Metallic Aerial Self-Supporting Fiber Optic Cable | AFL

AFL's MASS (Metallic Aerial Self-Supporting) cable delivers rugged, all-metal construction and integrated fiber optics for aerial

Mar 27, 2026

6 Core Optical Fiber cable

Built with single-mode ITU-T G.652D fibers and protected by corrugated steel tape armor, it

Jul 30, 2025

What Is Armored Fiber Cable?

Compared with standard non-armored fiber cables, armored fiber optic cables offer greater

Jun 27, 2026

Armored Fiber Optic Cables

Armored Fiber Optic Cables add an extra level of security to your installation when rodents, moisture, and other common threats to

Jul 07, 2026

The FOA Reference For Fiber Optics

Fiber Optic Cable Cable Types: (L>R): Zipcord, Distribution, Loose Tube, Breakout Cable provides

Nov 18, 2025

Fiber optic vs metal components ~ How fiber optic compares to ...

Both metal and fiber optic cables can be durable options as both can be designed to meet IP (Ingress Protection)

Feb 16, 2026

Fiber Optic Sensor Cables for Advanced Monitoring | AP Sensing

Advanced Monitoring Technology Fiber optic sensor cables are the key enabler for real-time monitoring of temperature, strain, and

Oct 25, 2025

SWA Fiber Optic Cable: Steel Wire Armoured Fiber Cable

Discover SWA Fiber Optic Cable features, benefits, and applications. ETK is a global supplier of steel wire armoured

Dec 13, 2025

Stainless Steel Fiber Optic Tubes

AFL's stainless steel fiber optic tubes provide exceptional protection and performance in subsea and harsh

May 20, 2026

Armored vs. Unarmored Fiber Optic Cables: What's the Best for You?

Explore the advantages and disadvantages of unarmored and armored fiber optic cables to determine the best

Oct 12, 2025

Outdoor Parallel Steel Wires & Steel Armored Uni-tube

The tube is wrapped with a layer of corrugated steel tape. Two parallel steel wires are placed at the two

Jun 03, 2026

Wire Armored Metal Tube | Fibercore

Wire Armored Metal Tube Fibercore provides fiber in wire armored metal tubes, enabling further robustness to the FIMT. FIMTs are

Nov 01, 2025

What Is Armored Fiber Cable?

What Is Armored Fiber Optic Cable? Armored fiber optic cable is a type of fiber optic cable built with an extra protective

Jan 20, 2026

Armored Fiber Cable Guide

Explore QSFPTek's comprehensive guide to armored fiber optic cables, including their uses, types, applications, and

Aug 27, 2025

Fiber Optic vs Metal Components

The introduction of fiber optic technology has advanced the way we deliver power and communicate digitally but how

Jan 08, 2026

Metal Coated Optical Fiber | Fibercore

Metal Coated Optical Fiber Optical fiber that is coated with a metallic protective layer such as Copper, Aluminium or Gold.

Jul 20, 2026

Fibre optic vs metal components

Comparing fibre optic to traditional materials when used in cables and connectors.

Mar 14, 2026

MASS Cable | Metallic Aerial Self-Supporting Fiber

AFL's MASS (Metallic Aerial Self-Supporting) cable delivers rugged, all-metal construction and integrated

Mar 02, 2026

Fibre Optic Cable with steel wire armouring

These HELUCOM® fibre optic universal cables are characterised by a compact design with swellable material. The metallic

Apr 12, 2026

Armored Fiber Optic Cables Ruggedized Military and Tactical fiber Cable

Armored Fiber Cable is a type of tactical fiber optic cable that has an additional metal covering on top of the fibers to prevent

Mar 19, 2026

A Guide to the Materials used in Fiber Optic Cable Manufacturing

This guide will discuss the different types of fiber materials used to make optic cables as part of the manufacturing

May 29, 2026

Fiber In Metal Tube | Fibercore

Fiber In Metal Tube Fibercore provides fiber in metal tubes (FIMTs) in different sizes, wall thickness and

Aug 15, 2025

Optical fiber

An optical fiber, or optical fibre, is a flexible glass or plastic fiber that can transmit light from one end to

Apr 08, 2026

Armored Fiber Optic Cable Types Explained | Indoor

Learn different types of armored fiber optic cable, including steel wire, corrugated, and

Oct 04, 2025

Metal Coated Fibers and Fiber Cables

Metal Coated Fibers and Fiber Cables High temperature resistance Increased durability, high strength, hermetically sealed

May 29, 2026

Armored Fiber Optic Cable Types Explained | Indoor & Outdoor Guide

Square-lock armored Fiber optic cable Square-lock armor consists of a square-profiled metal strip tightly wound

Feb 21, 2026

Fibre optic vs metal components: How fibre optic compares to ...

It is fibre optics' speed that sets it apart from its metal counterparts. Fibre optic cables and connectors are capable of

Jul 15, 2026

SWA Fiber Optic Cable: Steel Wire Armoured Fiber Cable

SWA fiber cables are used extensively in fiber networking and fiber optic ethernet cable systems for robust, long

Nov 30, 2025

Armored Fiber Optic Cables

Armored fiber optic cable is built tough with interlocking aluminum or corrugated steel wrapped around the

Jul 30, 2025

A Beginner's Guide to Armored Fiber Optic Cable

The armored fiber optic cable, as opposed to the common unarmored fiber optic cable, has

Aug 02, 2025

Metallic Armored Fiber Optic Cables | ETK Kablo

Explore ETK Kablo's metallic armored fiber optic cables for robust protection in harsh environments. Ideal for underground and

Feb 02, 2026

Metal-Coated Fibers: Performance in Extreme

Metal-coated optical fibers have emerged as a critical component, offering unparalleled

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.chromadecksigns-eastrand.co.za>

Email: sales@chromadecksigns-eastrand.co.za

Phone: +32 2 318 5792

Address: Avenue Louise 500, 1050 Brussels, Belgium

This document is for informational purposes only. Specifications subject to change without notice.

